UNITED STATES PATENT OFFICE.

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BARREL-HOOP-DRIVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 245,050, dated August 2, 1881.

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To all whom it may concern:

Be it known that I, MARIA E. BEASLEY, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Machines for Forcing Iron Hoops on Barrels, of which the following is a specification.

My invention relates to that class of machines which are designed to force the iron hoops on barrels after the staves are in position and loosely hooped; and my invention consists in mechanism to force the iron hoops on the barrel from both sides simultaneously, in the manner hereinafter set forth, and which mechanism is fully set forth in the following specification, shown in the accompanying drawings, and referred to in the appended claims.

The object of my invention is to construct a machine to do what manual labor is now employed to do, and to save time and expense in this line of manufacture.

In the drawings, Figure 1 is a front elevation of the machine complete. Fig. 2 is a side elevation of same. Fig. 3 is a plan of levers to operate the hooping-arms. Fig. 4 is a sectional view of one-half of the machine on the line *x x* of Fig. 5. Fig. 5 is a cross-section of the machine on line *y y* of view shown in Fig. 4. Fig. 6 is an elevation of a barrel-compressing device attached to the truck. Fig. 7 is a cross-section of same on line *w w*, Fig. 6. Fig. 8 is a perspective view of the hooping-toe. Fig. 9 is an elevation of same. Fig. 10 is a sectional view of safety mechanism applied to the driving-screw.

The parts of the machine on both sides of the railroad N are exactly similar, except that the screws C C are right and left handed. Therefore when I describe one side I also describe the other.

A are reciprocating heads, which slide upon the guideways *b* on bed-plate B through the agency of the slides A′, attached to the heads. These heads A are keyed to screws C, which are reciprocated by band-wheels D, provided with hubs *d* working upon the screws C and supported in bearings K. Upon either side of the driving band-wheels D, and working upon their hubs, are idler-wheels D′ and D².

The heads A are provided with a series of hooping-arms, H, pivoted to the heads at *a*, and provided on their ends with hooping-toes J, to be hereinafter described. Pivoted at *i* are a corresponding series of bell-crank levers, I, the outer ends of which operate on the arms H through the agency of a slot and pin, *h*, to throw them out or draw them in. The other ends of these levers I are held between two brass washers, *e*, in turn held by the hub *f′* on shaft F and nuts f^2 and f^3.

The shaft F is inclosed by a spring, G, one end of which rests against lock-nuts *g* on shaft F, and the whole is then placed in a hollow hub or hole, E, in the center of the heads, and the cap *f* is then placed in position and screwed over the opening E, which cap supports the other end of the spring. The action of the spring G and shaft F is to force the arms H upon the barrel Z and make them adjust themselves to uneven surfaces, and also to prevent the toes slipping over the hoops V in the forward movement.

Pivoted at *l* is a lever, L, the shorter arm of which rests against the end of the shaft F in the hole E, as shown in Fig. 4. These two levers L, one on each end of the machine, are connected to a lever, O, by bars P on opposite sides of the fulcrum and supporting-rod *o*, as shown in Fig. 3. By moving the lever O, the levers L are drawn in together or thrust apart.

The hooping-toe J is preferably composed of a step casting or forging of steel, and is provided with a curved end, *j*, as a guide, a slightly acute-angled edge, J′, to catch the hoop, and, if desired, a small knife-edge, j^2, to act as a guide by cutting slightly into the wood. The step J² is more or less inclined, so as to fit more tightly to the arm H the greater the pressure.

The toe may be bolted or otherwise secured to the arm.

The truck M runs upon the track N, and is provided with wheel-supports *m*, upon which the barrel rests. Instead of these wheel-supports, a curved block or blocks may be used; but in any case the barrel is free to move and adjust itself to the arms H, which are located about and press upon it on all sides.

If desired, a clamping device for the staves near the end hoops can be applied to either side of the truck M, as shown in Fig. 6, in which W is a compressing steel band attached at one end, W^2, to the truck, and having a loop in the other end at W′. Into this loop the small arm of the bell-crank lever X, pivoted